



末走稿

Jan. 24, 1950

羽黒記話云

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KYOTO UNIVERSITY  
AFRICAN ANTHROPOID EXPEDITION

INSTITUTE FOR HUMANISTIC STUDIES  
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京 都 大 学  
アフリカ類人猿学術調査委員会

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内線 962

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「山田」頭海根端

Geobiology, 展開

、生物社会、論理' = 717、自己批判

1950, Jan. 24.

(初教室)













p. 7. コマテ"集テ、ワタシハ、今日ワタクシカカデ~~テ~~ ~~geology~~ geologyノ居ル  
トイフコトヲ、一ツノ~~図ヲ~~<sup>イデ</sup>、~~ワタクシ~~ 了解明ニテミヨイノテイル。 ~~ワタクシ~~ <sup>ワタクシ</sup> ~~ワタクシ~~

~~第1章 '宋史'の居宅~~ ~~ヲ思イカエテイハナクナリ.~~ = ヲナカルニテアル.

ハビメ = ~~地~~ <sup>地</sup> ~~2/3~~ <sup>2/3</sup> がアッタ. 1876 年トイカノハ Wallace ノ 本ノ 出タ  
年代チアッタ? ~~地~~ <sup>地</sup> ~~2/3~~ <sup>2/3</sup> = E Darwin ノ ステ = " 'Origin' / -

④ = 'geographical distribution' = サイテイル. 此レ 22テ' 2 要 + コト

ハ、生忍子か地取子から最良のトイコトアル Clements ハ 1898

21, 22 Pound + 英畧 = 'The phytogeography of Nebraska' =

Shelford 1911 = "Physiological animal"

geography' 7 書本, 1913, 'Animal communities' 7, 実ハ

地政子最書ノ一ツトシテ刊行セリイタノテアル。 ~~ニハ~~ *Clemen*  
"Succession"

isn = Clements, 'succession and climax' 1929 系 EC =

花の分布の地理 = 植物地理学, 植物の生活の地理 = 植物生態学

ニ、雇用サス2トカウ能トサワズ。ソシテソノ完成ヲ1929年、Weaver

トノ共著 'Plant ecology' = 見ルコトカテキルテアロウ。コノ展開ヲ述ビテ、

flora / フララ = plant community フララ・コミュニティ, マダ 侵入・定着

競争 + イマタ, dynamic +, 原理, functional + ⑥カ; トラハ入ルヲレデイル

この事実ヲアル。 然レ、<sup>(彼ノ見出し)</sup> ~~ソノハ~~ Succession トイフ ~~彼ノ~~ 承理ヲ預ル化

セウガタメ、<sup>一枚!</sup>~~一枚~~補助手段デ<sup>ニキナイ、</sup>ピルトモイエルテアワテ、彼<sup>ハ</sup>永<sup>ニ</sup>理<sup>ヲ</sup>結<sup>ス</sup>

$\bar{y} = \frac{1}{n} \sum y_i$ , ~~climax vegetation type~~  $P+H+K$  植物の



[illegible][illegible]

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[illegible]

1. 生物の分類と系統の推定  
 2. 生物の進化と系統の推定  
 3. 生物の地理的分布と系統の推定  
 4. 生物の生態と系統の推定  
 5. 生物の生理と系統の推定  
 6. 生物の形態と系統の推定  
 7. 生物の行動と系統の推定  
 8. 生物の繁殖と系統の推定  
 9. 生物の生活史と系統の推定  
 10. 生物の系統と系統の推定



### 3. Example

Example 1:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ .  
 Example 2:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{R}$ .  
 Example 3:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ .  
 Example 4:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ ,  $x_2 = 3$ .  
 Example 5:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ ,  $x_2 = 3$ ,  $x_3 = 4$ .  
 Example 6:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ ,  $x_2 = 3$ ,  $x_3 = 4$ ,  $x_4 = 5$ .

Example 1:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ .  
 Example 2:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{R}$ .

Example 3:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ .

Example 4:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ ,  $x_2 = 3$ .  
 Example 5:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ ,  $x_2 = 3$ ,  $x_3 = 4$ .  
 Example 6:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ ,  $x_2 = 3$ ,  $x_3 = 4$ ,  $x_4 = 5$ .

Example 7:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ ,  $x_2 = 3$ ,  $x_3 = 4$ ,  $x_4 = 5$ ,  $x_5 = 6$ .  
 Example 8:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ ,  $x_2 = 3$ ,  $x_3 = 4$ ,  $x_4 = 5$ ,  $x_5 = 6$ ,  $x_6 = 7$ .  
 Example 9:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ ,  $x_2 = 3$ ,  $x_3 = 4$ ,  $x_4 = 5$ ,  $x_5 = 6$ ,  $x_6 = 7$ ,  $x_7 = 8$ .  
 Example 10:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ ,  $x_2 = 3$ ,  $x_3 = 4$ ,  $x_4 = 5$ ,  $x_5 = 6$ ,  $x_6 = 7$ ,  $x_7 = 8$ ,  $x_8 = 9$ .

Example 11:  $\sum_{i=1}^n x_i = 10$ ,  $x_i \geq 0$ ,  $x_i \in \mathbb{Z}$ , secondary  
 constraint:  $x_1 = 2$ ,  $x_2 = 3$ ,  $x_3 = 4$ ,  $x_4 = 5$ ,  $x_5 = 6$ ,  $x_6 = 7$ ,  $x_7 = 8$ ,  $x_8 = 9$ ,  $x_9 = 10$ .

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2014年夏季，Leading ecological reef, 珊瑚礁生态恢复项目

57  
 $\frac{1}{2} \times 100 = 50$ ,  $\frac{1}{2} \times 100 = 50$ ,  $\frac{1}{2} \times 100 = 50$   
 $\frac{1}{2} \times 100 = 50$ ,  $\frac{1}{2} \times 100 = 50$

~~Thyridophora~~ *Thyridophora* - 163. 17.

$$- \frac{1}{2} = -\frac{1}{2} + \frac{1}{2} = \frac{1}{2} \quad \text{if } x = \frac{1}{2}, \quad \text{if } x = \frac{1}{2}$$

415,  $u = \frac{1}{2} \pi + \frac{1}{2} \pi$ , 420 = function of  $\frac{1}{2} \pi$  .  $u = \frac{1}{2} \pi$ ,  $u = \frac{1}{2} \pi$

bio-ecology + 17.  $21 = 15 \times \frac{1}{2} + 10 \times \frac{1}{2} + 17 \times \frac{1}{2}$ , + 100 = + 100 + 17. 22 = 17 + 17

[illegible]

~~with  $g_1, g_2, \dots, g_n$~~  function,  $\mathbb{Q} \ni x \mapsto f_x = g + h_x$ ,  $\frac{g+h_x}{A} = \frac{g}{A} + \frac{h_x}{A}$

Sept 31st 87, 7572 food - down 1972 in, in chain 40-2

The corresponding  $\pi$ -chain system is  $\pi_0 = \pi$ , i.e.

My system is: 100% 100% 100% 100% 100%

↑ 聖人、一ノ言ヲ以テ、天下ニ示スル者、其ノ意ハ如何ナルヤ。此ノ書ハ、



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bio-economic & community ecology

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bio-economic & community ecology

A. 2.

The first part of the course, the history, is a very  
 interesting and comprehensive survey of the history of  
 the world from the beginning of time to the present.  
 The second part of the course, the geography, is a very  
 interesting and comprehensive survey of the geography of  
 the world from the beginning of time to the present.  
 The third part of the course, the history, is a very  
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 The fourth part of the course, the geography, is a very  
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 the world from the beginning of time to the present.  
 The fifth part of the course, the history, is a very  
 interesting and comprehensive survey of the history of  
 the world from the beginning of time to the present.  
 The sixth part of the course, the geography, is a very  
 interesting and comprehensive survey of the geography of  
 the world from the beginning of time to the present.  
 The seventh part of the course, the history, is a very  
 interesting and comprehensive survey of the history of  
 the world from the beginning of time to the present.  
 The eighth part of the course, the geography, is a very  
 interesting and comprehensive survey of the geography of  
 the world from the beginning of time to the present.  
 The ninth part of the course, the history, is a very  
 interesting and comprehensive survey of the history of  
 the world from the beginning of time to the present.  
 The tenth part of the course, the geography, is a very  
 interesting and comprehensive survey of the geography of  
 the world from the beginning of time to the present.

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127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 9

2.  $\text{recursion}$ ,  $\text{for } \bar{q} = \text{width}(\bar{q}_0) = \text{width}(\bar{q}_1) = \dots$

2.  $\frac{1}{2} \pi - \alpha$  172

2. 1. 1977: 2 specimens, 141 - 142 (1907, 1911, 1912)

$$f(x) = \sum_{n=0}^{\infty} \frac{f^{(n)}(a)}{n!} (x-a)^n$$

$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

1. *Helicoverpa armigera* (L.) - Tobacco Budworm. 1917-1918. 1919-1920. 1921-1922. 1923-1924. 1925-1926. 1927-1928. 1929-1930. 1931-1932. 1933-1934. 1935-1936. 1937-1938. 1939-1940. 1941-1942. 1943-1944. 1945-1946. 1947-1948. 1949-1950. 1951-1952. 1953-1954. 1955-1956. 1957-1958. 1959-1960. 1961-1962. 1963-1964. 1965-1966. 1967-1968. 1969-1970. 1971-1972. 1973-1974. 1975-1976. 1977-1978. 1979-1980. 1981-1982. 1983-1984. 1985-1986. 1987-1988. 1989-1990. 1991-1992. 1993-1994. 1995-1996. 1997-1998. 1999-2000. 2001-2002. 2003-2004. 2005-2006. 2007-2008. 2009-2010. 2011-2012. 2013-2014. 2015-2016. 2017-2018. 2019-2020. 2021-2022. 2023-2024. 2025-2026. 2027-2028. 2029-2030. 2031-2032. 2033-2034. 2035-2036. 2037-2038. 2039-2040. 2041-2042. 2043-2044. 2045-2046. 2047-2048. 2049-2050. 2051-2052. 2053-2054. 2055-2056. 2057-2058. 2059-2060. 2061-2062. 2063-2064. 2065-2066. 2067-2068. 2069-2070. 2071-2072. 2073-2074. 2075-2076. 2077-2078. 2079-2080. 2081-2082. 2083-2084. 2085-2086. 2087-2088. 2089-2090. 2091-2092. 2093-2094. 2095-2096. 2097-2098. 2099-2100. 2101-2102. 2103-2104. 2105-2106. 2107-2108. 2109-2110. 2111-2112. 2113-2114. 2115-2116. 2117-2118. 2119-2120. 2121-2122. 2123-2124. 2125-2126. 2127-2128. 2129-2130. 2131-2132. 2133-2134. 2135-2136. 2137-2138. 2139-2140. 2141-2142. 2143-2144. 2145-2146. 2147-2148. 2149-2150. 2151-2152. 2153-2154. 2155-2156. 2157-2158. 2159-2160. 2161-2162. 2163-2164. 2165-2166. 2167-2168. 2169-2170. 2171-2172. 2173-2174. 2175-2176. 2177-2178. 2179-2180. 2181-2182. 2183-2184. 2185-2186. 2187-2188. 2189-2190. 2191-2192. 2193-2194. 2195-2196. 2197-2198. 2199-2200. 2201-2202. 2203-2204. 2205-2206. 2207-2208. 2209-2210. 2211-2212. 2213-2214. 2215-2216. 2217-2218. 2219-2220. 2221-2222. 2223-2224. 2225-2226. 2227-2228. 2229-2230. 2231-2232. 2233-2234. 2235-2236. 2237-2238. 2239-2240. 2241-2242. 2243-2244. 2245-2246. 2247-2248. 2249-2250. 2251-2252. 2253-2254. 2255-2256. 2257-2258. 2259-2260. 2261-2262. 2263-2264. 2265-2266. 2267-2268. 2269-2270. 2271-2272. 2273-2274. 2275-2276. 2277-2278. 2279-2280. 2281-2282. 2283-2284. 2285-2286. 2287-2288. 2289-2290. 2291-2292. 2293-2294. 2295-2296. 2297-2298. 2299-2300. 2301-2302. 2303-2304. 2305-2306. 2307-2308. 2309-2310. 2311-2312. 2313-2314. 2315-2316. 2317-2318. 2319-2320. 2321-2322. 2323-2324. 2325-2326. 2327-2328. 2329-2330. 2331-2332. 2333-2334. 2335-2336. 2337-2338. 2339-2340. 2341-2342. 2343-2344. 2345-2346. 2347-2348. 2349-2350. 2351-2352. 2353-2354. 2355-2356. 2357-2358. 2359-2360. 2361-2362. 2363-2364. 2365-2366. 2367-2368. 2369-2370. 2371-2372. 2373-2374. 2375-2376. 2377-2378. 2379-2380. 2381-2382. 2383-2384. 2385-2386. 2387-2388. 2389-2390. 2391-2392. 2393-2394. 2395-2396. 2397-2398. 2399-2400. 2401-2402. 2403-2404. 2405-2406. 2407-2408. 2409-2410. 2411-2412. 2413-2414. 2415-2416. 2417-2418. 2419-2420. 2421-2422. 2423-2424. 2425-2426. 2427-2428. 2429-2430. 2431-2432. 2433-2434. 2435-2436. 2437-2438. 2439-2440. 2441-2442. 2443-2444. 2445-2446. 2447-2448. 2449-2450. 2451-2452. 2453-2454. 2455-2456. 2457-2458. 2459-2460. 2461-2462. 2463-2464. 2465-2466. 2467-2468. 2469-2470. 2471-2472. 2473-2474. 2475-2476. 2477-2478. 2479-2480. 2481-2482. 2483-2484. 2485-2486. 2487-2488. 2489-2490. 2491-2492. 2493-2494. 2495-2496. 2497-2498. 2499-2500. 2501-2502. 2503-2504. 2505-2506. 2507-2508. 2509-2510. 2511-2512. 2513-2514. 2515-2516. 2517-2518. 2519-2520. 2521-2522. 2523-2524. 2525-2526. 2527-2528. 2529-2530. 2531-2532. 2533-2534. 2535-2536. 2537-2538. 2539-2540. 2541-2542. 2543-2544. 2545-2546. 2547-2548. 2549-2550. 2551-2552. 2553-2554. 2555-2556. 2557-2558. 2559-2560. 2561-2562. 2563-2564. 2565-2566. 2567-2568. 2569-2570. 2571-2572. 2573-2574. 2575-2576. 2577-2578. 2579-2580. 2581-2582. 2583-2584. 2585-2586. 2587-2588. 2589-2590. 2591-2592. 2593-2594. 2595-2596. 2597-2598. 2599-2600. 2601-2602. 2603-2604. 2605-2606. 2607-2608. 2609-2610. 2611-2612. 2613-2614. 2615-2616. 2617-2618. 2619-2620. 2621-2622. 2623-2624. 2625-2626. 2627-2628. 2629-2630. 2631-2632. 2633-2634. 2635-2636. 2637-2638. 2639-2640. 2641-2642. 2643-2644. 2645-2646. 2647-2648. 2649-2650. 2651-2652. 2653-2654. 2655-2656.

$\Delta = 267 \text{ K}$ ,  $T = 107^\circ\text{C}$ ,  $270 \text{ cm}^{-1}$ . No. 127, 180000.

[illegible]

P. 1. ~~unidentified individual~~, 11/24/1917, 1/2/24

1870-1871, 1872-1873, 1874-1875, 1876-1877, 1878-1879, 1880-1881, 1882-1883, 1884-1885, 1886-1887, 1888-1889, 1890-1891, 1892-1893, 1894-1895, 1896-1897, 1898-1899, 1900-1901, 1902-1903, 1904-1905, 1906-1907, 1908-1909, 1910-1911, 1912-1913, 1914-1915, 1916-1917, 1918-1919, 1920-1921, 1922-1923, 1924-1925, 1926-1927, 1928-1929, 1930-1931, 1932-1933, 1934-1935, 1936-1937, 1938-1939, 1940-1941, 1942-1943, 1944-1945, 1946-1947, 1948-1949, 1950-1951, 1952-1953, 1954-1955, 1956-1957, 1958-1959, 1960-1961, 1962-1963, 1964-1965, 1966-1967, 1968-1969, 1970-1971, 1972-1973, 1974-1975, 1976-1977, 1978-1979, 1980-1981, 1982-1983, 1984-1985, 1986-1987, 1988-1989, 1990-1991, 1992-1993, 1994-1995, 1996-1997, 1998-1999, 2000-2001, 2002-2003, 2004-2005, 2006-2007, 2008-2009, 2010-2011, 2012-2013, 2014-2015, 2016-2017, 2018-2019, 2020-2021, 2022-2023, 2024-2025, 2026-2027, 2028-2029, 2030-2031, 2032-2033, 2034-2035, 2036-2037, 2038-2039, 2040-2041, 2042-2043, 2044-2045, 2046-2047, 2048-2049, 2050-2051, 2052-2053, 2054-2055, 2056-2057, 2058-2059, 2060-2061, 2062-2063, 2064-2065, 2066-2067, 2068-2069, 2070-2071, 2072-2073, 2074-2075, 2076-2077, 2078-2079, 2080-2081, 2082-2083, 2084-2085, 2086-2087, 2088-2089, 2090-2091, 2092-2093, 2094-2095, 2096-2097, 2098-2099, 2100-2101, 2102-2103, 2104-2105, 2106-2107, 2108-2109, 2110-2111, 2112-2113, 2114-2115, 2116-2117, 2118-2119, 2120-2121, 2122-2123, 2124-2125, 2126-2127, 2128-2129, 2130-2131, 2132-2133, 2134-2135, 2136-2137, 2138-2139, 2140-2141, 2142-2143, 2144-2145, 2146-2147, 2148-2149, 2150-2151, 2152-2153, 2154-2155, 2156-2157, 2158-2159, 2160-2161, 2162-2163, 2164-2165, 2166-2167, 2168-2169, 2170-2171, 2172-2173, 2174-2175, 2176-2177, 2178-2179, 2180-2181, 2182-2183, 2184-2185, 2186-2187, 2188-2189, 2190-2191, 2192-2193, 2194-2195, 2196-2197, 2198-2199, 2200-2201, 2202-2203, 2204-2205, 2206-2207, 2208-2209, 2210-2211, 2212-2213, 2214-2215, 2216-2217, 2218-2219, 2220-2221, 2222-2223, 2224-2225, 2226-2227, 2228-2229, 2230-2231, 2232-2233, 2234-2235, 2236-2237, 2238-2239, 2240-2241, 2242-2243, 2244-2245, 2246-2247, 2248-2249, 2250-2251, 2252-2253, 2254-2255, 2256-2257, 2258-2259, 2260-2261, 2262-2263, 2264-2265, 2266-2267, 2268-2269, 2270-2271, 2272-2273, 2274-2275, 2276-2277, 2278-2279, 2280-2281, 2282-2283, 2284-2285, 2286-2287, 2288-2289, 2290-2291, 2292-2293, 2294-2295, 2296-2297, 2298-2299, 2300-2301, 2302-2303, 2304-2305, 2306-2307, 2308-2309, 2310-2311, 2312-2313, 2314-2315, 2316-2317, 2318-2319, 2320-2321, 2322-2323, 2324-2325, 2326-2327, 2328-2329, 2330-2331, 2332-2333, 2334-2335, 2336-2337, 2338-2339, 2340-2341, 2342-2343, 2344-2345, 2346-2347, 2348-2349, 2350-2351, 2352-2353, 2354-2355, 2356-2357, 2358-2359, 2360-2361, 2362-2363, 2364-2365, 2366-2367, 2368-2369, 2370-2371, 2372-2373, 2374-2375, 2376-2377, 2378-2379, 2380-2381, 2382-2383, 2384-2385, 2386-2387, 2388-2389, 2390-2391, 2392-2393, 2394-2395, 2396-2397, 2398-2399, 2400-2401, 2402-2403, 2404-2405, 2406-2407, 2408-2409, 2410-2411, 2412-2413, 2414-2415, 2416-2417, 2418-2419, 2420-2421, 2422-2423, 2424-2425, 2426-2427, 2428-2429, 2430-2431, 2432-2433, 2434-2435, 2436-2437, 2438-2439, 2440-2441, 2442-2443, 2444-2445, 2446-2447, 2448-2449, 2450-2451, 2452-2453, 2454-2455, 2456-2457, 2458-2459, 2460-2461, 2462-2463, 2464-2465, 2466-2467, 2468-2469, 2470-2471, 2472-2473, 2474-2475, 2476-2477, 2478-2479, 2480-2481, 2482-2483, 2484-2485, 2486-2487, 2488-2489, 2490-2491, 2492-2493, 2494-2495, 2496-2497, 2498-2499, 2500-2501, 2502-2503, 2504-2505, 2506-2507, 2508-2509, 2510-2511, 2512-2513, 2514-2515, 2516-2517, 2518-2519, 2520-2521, 2522-2523, 2524-2525, 2526-2527, 2528-2529, 2530-2531, 2532-2533, 2534-2535, 2536-2537, 2538-2539, 2540-2541, 2542-2543, 2544-2545, 2546-2547, 2548-2549, 2550-2551, 2552-2553, 2554-2555, 2556-2557, 2558-2559, 2560-2561, 2562-2563, 2564-2565, 2566-2567, 2568-2569, 2570-2571, 2572-2573, 2574-2575, 2576-2577, 2578-2579, 2580-2581, 2582-2583, 2584-2585, 2586-2587, 2588-2589, 2590-2591, 2592-2593, 2594-2595, 2596-2597, 2598-2599, 2600-2601, 2602-2603, 2604-2605, 2606-2607, 2608-2609, 2610-2611, 2612-2613, 26

[illegible]

$\frac{1}{2} \cos \theta = \frac{1}{2} \cos \theta$

[illegible]

1511 + 27, sociology + bio-economics, 217 = ecological

science if,  $\theta_0 = \frac{\pi}{2}$  = converge at  $\pi/2$ ,  $\therefore g = \frac{\pi}{2}$ .

- 71 199 = + 10, 10000 18-24

geography, history

age - as a result, - 1910-17 - 1918-1919 - 1920-1921

[illegible]

Six - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100

1890-1891

1. 20

geographical, historical, and other factors - the study of the environment and its relationship to human society - the study of the environment and its relationship to human society

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